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REMARKS

By this amendment, claims 1-2 and 4-17 are pending in the application.

Claims 1, 4, 6-7, 11, 15 and 17 are being amended. These amendments are fully supported by the originally filed Specification and original claims and adds no new matter. For example, claims 1, 6 and 17 have been amended to incorporate the language "the ceramic material comprising pores that are at least partially filled by a metal," which can be found in the Specification from page 8, line 32 to page 9, line 3. Claim 11 is being amended to incorporate the language of its parent claims.

Claim 3 is being canceled and claims 18-21 are being added. New claim 18 is a dependent claim that recites a limitation cited in original claim 7 and now depends from amended claim 7. New claims 19-21 are dependent upon amended claim 11.

Entry of the amendments and reconsideration of the present case is thus respectfully requested.

Claim Rejections - 35 U.S.C. § 102

1. The Examiner rejected claims 1-4, 6, 8-12 and 14-16 under 35 U.S.C. § 102(b) as being anticipated by Weldon et al. (U.S. Patent No. 6,108,189).

For a claim to be anticipated, the cited reference must contain all of the elements of the claim in question:

Invalidity for anticipation requires that all of the elements and limitations of the claim are found within a single prior art reference....There must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. Scripps Clinic & Research Found. V. Genentech Inc., 18 USPQ 2d 1001, 1010 (Fed. Cir. 1991).

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Claim 1

Amended claim 1 is to an electrostatic chuck capable of attaching to a pedestal in a process chamber. The chuck comprises an electrostatic puck comprising a ceramic body with an embedded electrode. The ceramic body has a substrate support surface with an annular periphery. The chuck further comprises a base plate below the electrostatic puck. The base plate has an annular flange extending beyond the periphery of the ceramic body. The base plate comprises a composite of a ceramic material comprising pores that are at least partially filled by a metal.

Weldon et al. does not teach a base plate having an annular flange extending beyond the periphery of the ceramic body, and the base plate comprising a composite of a ceramic material having pores that are at least partially filled by a metal. Instead, Weldon et al. discloses:

In another example, U.S. Pat. No. 4,480,284 discloses a chuck having a ceramic dielectric layer made by flame spraying Al_2O_3 , TiO_2 , or BaTiO_3 over an electrode and impregnating the pores of the ceramic layer with a polymer. (Weldon et al., Col. 2, lines 21-25.)

In contrast to amended claim 1, Weldon et al. teaches filling pores of the ceramic layer with a polymer as opposed to a metal, teaching away from amended claim 1. Further, as can be seen in Figure 4b of Weldon et al. and as indicated by the shading of base plate 105, the base plate in Weldon et al. consists of only metal.

For these reasons, claim 1 and the claims dependent therefrom are not anticipated by Weldon et al. because Weldon et al. does not teach each and every element and limitation of amended claim 1.

Claim 6

Amended claim 6 recites, inter alia, a base plate comprising a composite comprising a ceramic material comprising pores that are at least partially filled by a metal. This is not taught by Weldon et al. for the reasons discussed above. For example, in contrast to amended claim 6, Weldon et al. teaches coating a metal electrode with a ceramic material and filling pores of the ceramic material with a polymer, as opposed to a metal.

Therefore, claim 6 and the claims dependent therefrom are not anticipated by Weldon et al. because Weldon et al. does not teach every element or limitation of claim 6.

Claim 11

As per the Examiner, claims 11-12 would be allowable if amended and rewritten in independent form to include the language of the base claim and any intervening claims. Applicant has performed the suggested amendments to the claims to make these claims allowable.

Claim Rejections - 35 U.S.C. § 103

1. The Examiner rejected claims 5 and 7 under 35 U.S.C. § 103(a) as being unpatentable over Weldon et al. in view of Waggoner et al. (U.S. Patent No. 6,503,572).

An obviousness rejection requires that the cited reference teach or suggest all of the limitations of the claim in question:

To establish obviousness, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim

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against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Claim 1

Claim 5 depends on independent claim 1, which recites, inter alia, a base plate below the electrostatic puck, the base plate having an annular flange extending beyond the periphery of the ceramic body, and the base plate comprising a composite of a ceramic material comprising pores that are at least partially filled by the metal. Weldon et al. neither teaches nor suggests the base plate comprising a composite of a ceramic material comprising pores that are at least partially filled by the metal for the same reasons as presented above. Instead and in contrast to claim 1, Weldon et al. teaches coating a metal electrode with a ceramic material and filling pores of the ceramic material with a polymer, as opposed to a metal. This teaches away from amended claim 1 which recites a composite comprising a ceramic material having pores that are at least partially filled by a metal.

There must be some suggestion or motivation to combine Weldon et al. in view of Waggoner et al. to demonstrate obviousness:

The combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a prima facie case obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge cannot come from the applicant's invention itself. In re Oetiker, 24 USPQ 2d 1443, 1446 (Fed. Cir. 1992).

However, Waggoner et al. fails to make up for the deficiencies of Weldon et al. because there is no suggestion or motivation in either Waggoner et. al. or Weldon et al. to combine the two references to teach of a base plate having an annular flange where the base plate including the flange thereon comprises a ceramic material and a

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metal, and where the ceramic material comprises pores that are at least partially filled by the metal. Waggoner et al. teaches "[i]mproved silicon carbide composites made by an infiltration process feature [sic] a metal phase in addition to any residual silicon phase". (Waggoner et al., Abstract.) No where in Waggoner et al. or Weldon et al. is there any motivation or suggestion for using such composites in a base plate having an annular flange, where the base plate is used for placement under an electrostatic puck in an electrostatic chuck, as in amended claim 1. To combine these references would be doing so only with the benefit of hindsight, given the applicant's invention.

For these reasons, claim 1 and the claims dependent therefrom, including claim 5, are patentable over the cited references.

Claim 6

Claim 7 depends from amended independent claim 6. Amended claim 6 and the claims depending therefrom are patentable over Weldon et al. and Waggoner et al. because Weldon et al. fails to teach or suggest a base plate having an annular flange, the base plate comprising a composite comprising a ceramic material comprising pores that are at least partially filled by the metal, and neither Weldon et al. nor Waggoner et al. suggests or motivates one of ordinary skill in the art to combine the teachings of these two references to derive the claimed invention, as discussed above.

Based upon the arguments presented above, Applicant respectfully requests the allowance of these claims.

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2. The Examiner rejected claims 13 and 17 under 35 U.S.C. § 103(a) as being unpatentable over Weldon et al. in view of Flanigan et al. (U.S. Patent No. 6,081,414).

Claim 13

Claim 13 depends from claim 8 which depends from independent claim 6. Amended claim 6 is patentable over Weldon et al., as discussed above, because Weldon et al. does not teach or suggest a base plate comprising a composite comprising a ceramic material having pores that are at least partially filled by the metal.

However, Flanigan et al. fails to make up for the deficiencies of Weldon et al. because Flanigan et al. also does not teach or suggest a base plate comprising a composite comprising a ceramic material having pores that are at least partially filled by metal. Instead, Flanigan et al. teaches an electrode or cooling plate between the electrostatic chuck (puck) and the pedestal, where the electrode or cooling plate is fabricated from a metal:

An electrode 234 is disposed between the electrostatic chuck 105 and the pedestal 104. Specifically, the electrode 234 is disposed directly below the electrostatic chuck 105 inside the enclosure 208. Preferably, the electrode 234 is fabricated from a material that is a high conductor of RF power. In a preferred embodiment of the invention, the electrode has the form of a cooling plate 234 fabricated of a block of copper or stainless steel that is machined to a high degree of precision so that it fits and communicates with other enclosure components as described below.... the cooling plate 234 may be plated to prevent oxidation of the cooling plate material. Preferably, the plating material is nickel. (Flanigan et al., Col. 6, lines 10-30.)

Thus, Flanigan et al. teaches a plate that is a solid metal as opposed to a composite comprising a ceramic material and a metal. Further, Flanigan et al. does not teach or suggest a ceramic material comprising pores having a metal therein, as in amended claim 6.

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Thus, the combination of Weldon et al. and Flanigan et al. does not render obvious claim 6 or the claims directly or indirectly dependent therefrom.

Claim 17

Amended claim 17 recites the same limitation as independent claim 6; a base plate comprising a composite comprising a ceramic material having pores that are at least partially filled by the metal. Amended claim 17 is patentable over Weldon et al. and Flanigan et al. for the same reasons as presented above with respect to amended claim 6.

Claim Objections - Formalities

The Examiner objected to claims 11-12 as being dependent upon a rejected base claim, but stated that such claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As per the Examiner's suggestion, Applicant has rewritten claim 11 in independent form; claim 12 being dependent on claim 11. Specifically, original dependent claim 11 has been amended to include all of the claim limitations of dependent claim 8 from which original claim 11 depended therefrom, as well as all of the claim limitations of original independent claim 6 from which claim 8 depends. Thus, Applicant respectfully seeks the withdrawal of the objections with respect to claims 11-12.

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Information Disclosure Statement

Applicant filed a supplemental Information Disclosure Statement on September 21, 2004. The Examiner is respectfully requested to consider these references and return to Applicant the three PTO/SB/08A forms with the Examiner's initials.

Should the Examiner have any questions regarding the above remarks, the Examiner is requested to telephone Applicant's representative at the number listed below.

Respectfully submitted,
JANAH & ASSOCIATES, P.C.

Date: December 19, 2006

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